

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A dispenser for a liquid crystal display panel, comprising:
a table for mounting a substrate;
a syringe having a nozzle provided at an end thereof;
a body in which the syringe is mounted;
a vertical driving stepping motor for moving the body in a vertical direction;
a first sensor in the body for detecting whether the nozzle of the syringe is in contact with the substrate after the body is lowered;
a second sensor for detecting a gap distance between the nozzle and the substrate; and
a main unit for controlling the vertical driving stepping motor in response to an output from the second sensor to obtain a desired gap distance between the nozzle and the substrate,
wherein the first sensor includes magnetic sensor sending an electric signal to the main unit that changes as the body is lowered by the vertical driving stepping motor toward the table,
wherein when the nozzle is in contact with the substrate, the lowering of the body stops so that the electrical signal stops changing and
wherein the main unit recognizes an absence of change in the electrical signal as the nozzle is in contact with the substrate and
controls the vertical driving stepping motor to stop the lowering of the body, to raise the body so that a desired gap distance can be obtained between the nozzle and the substrate based upon an output from the second sensor, and to raise and lower the body so that a desired gap can be maintained between the nozzle and the substrate.
2. (Canceled)
3. (Original) The dispenser of claim 1, wherein the second sensor is a laser displacement sensor.
4. (Canceled)

5. (Previously Presented) The dispenser of claim 1, wherein the table is horizontally movable in forward/backward and left/right directions.
6. (Original) The dispenser of claim 1, wherein the second sensor comprises:
a light emitting unit for irradiating laser on the surface of the substrate; and
a light receiving unit for receiving laser reflected from the substrate.
7. (Original) The dispenser of claim 6, wherein the light receiving unit detects a gap distance between the nozzle and the substrate according to a position on a surface of the light receiving unit.
8. (Original) The dispenser of claim 1, wherein the syringe is filled with sealant.
9. (Original) The dispenser of claim 1, wherein the syringe is filled with liquid crystal.
10. (Original) The dispenser of claim 1, wherein the syringe is filled with Silver (Ag).
11. (Withdrawn) A method for controlling a gap between a nozzle and a substrate using a dispenser for a liquid crystal display panel, comprising:
lowering a body with a syringe mounted therein using a vertical driving stepping motor;
detecting whether a nozzle of the syringe is in contact with a substrate;
raising the body;
detecting a gap distance between the nozzle and the substrate; and
controlling the vertical driving stepping motor so that a desired gap distance is obtained between the nozzle and the substrate.
12. (Withdrawn) The method of claim 11, wherein controlling the vertical driving stepping motor includes obtaining the desired gap distance of about 40 μ m.

13. (Withdrawn) The method of claim 11, further comprising repositioning the body above the substrate while maintaining the desired gap distance between the body and the substrate.

14. (Withdrawn) The method of claim 11, wherein raising the body includes raising the body when the nozzle is detected to be in contact with the substrate.

15. (Withdrawn) The method of claim 11, wherein detecting the gap distance between the nozzle and the substrate includes:

irradiating light from a light emitting unit mounted on the body onto the substrate;

receiving a reflected light from the substrate using a light receiving unit mounted on the body; and

determining the gap distance according to a position on a surface of the light receiving unit when the reflected light is incident and received.